CIRCULATES

MARCH 1961

V. 41 #3

Bulletin

NATIONAL TUBERCULOSIS ASSOCIATION

SCOREBOARD FOR CASE DETECTION PROGRAMS

VANDERBILT UNIVERSITY
LIBRARY
MAR 9 1961
SCHOOL OF MEDICINE

HOME TREATMENT

THE PRICE OF TB CONTROL

NATIONAL
TUBERCULOSIS
ASSOCIATION

Bulletin

Sol S. Lifson
Editorial Director

Lucille Fisher
Managing Editor

Jo Brown
Art Editor

Vol. 47 No. 3

Published monthly except August at 404 North Wesley Ave., Mount Morris, Ill., by the National Tuberculosis Association for persons interested in public health and administrative aspects of tuberculosis and respiratory disease control, and made possible by Christmas Seal contributions. The editors welcome articles for possible publication. If any article deals with a subject on which there may be differences of opinion, the BULLETIN will be glad to consider presentation of varying opinions in the same or subsequent issues. The opinions expressed in signed articles are the authors' and do not necessarily reflect those of the National Tuberculosis Association. Editorial Office: 1790 Broadway, New York 19, N.Y. Second class postage paid at Mount Morris, Ill.

Coming to Cincy?

■ MAY 21 TO 25 ARE THE DATES. The Netherland Hilton Hotel in Cincinnati is the place. Once a year physicians and others active in the work of the American Thoracic Society and the National Tuberculosis Association have this special opportunity to meet and discuss the latest developments in tuberculosis and other respiratory diseases. Having had an opportunity to observe the committee at work, I can report that this year's program promises to be an excellent one, perhaps even better than those of past years.

The opening general session should be of wide interest. "The Role of the Voluntary Agency in the U. S. Today" will be discussed by a panel of outstanding speakers: Dr. Robert Hamlin, who heads up the Rockefeller Study of Voluntary Agencies; Richard Carter, author of *The Gentle Legions;* Dr. Mack I. Shanholtz of the Association of State and Territorial Health Officers; John Martin of the NTA Board of Directors; and Sidney Shipman, M.D., of the American Medical Association. At a special meeting that same evening, the keynote speech will be given, and the Trudeau and Ross Medals will be awarded.

Major topics to be presented at the medical sessions will be: effects of air pollution on acute and chronic respiratory disease; viral infections and chronic bronchopulmonary disease; and the present status of the management of the patient with drug-resistant tubercle bacilli. In the afternoons, the subjects to be presented will cover the gamut of respiratory diseases from clinical, laboratory, and epidemiologic standpoints. Three seminars on topics of special current interest will be held at noon, May 22, and another three will be held on May 24.

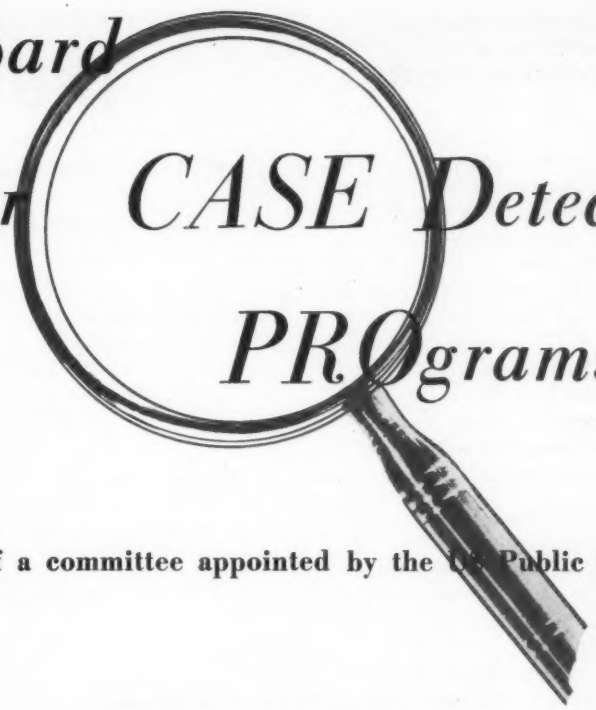
Dr. Julius L. Comroe, of the University of California, will deliver the Amberson Lecture. Dr. Comroe is known not only as a leading investigator in the field of pulmonary function, but also as a brilliant teacher and speaker. At a special joint session on Wednesday afternoon, May 24, the audience will be privileged to hear the first reports of the prophylaxis trials of the U. S. Public Health Service. The reports are expected to cast considerable light on the questions of "primary" and "secondary" prophylaxis against tuberculosis. These questions have become increasingly important since the Arden House Conference.

The public health sessions will contain much of interest to the physician who is involved in the voluntary health program of the NTA. In these sessions, the nontuberculous respiratory diseases will receive increased emphasis.

Reading the whole program—and, better yet, attending the annual meeting—will make it abundantly evident that the NTA and the ATS are meeting their responsibilities to plan the Annual Meeting program soundly, to evaluate it critically, to provide opportunities for communication, and to inform as to latest developments—and thus to prepare all of us better for our task of informing the medical profession and the general public about what needs to be done in tuberculosis and other respiratory diseases. This year's opportunity is too good to miss.

WILLIAM B. TUCKER, M.D.
President, American Thoracic Society

Scoreboard for CASE Detection PROgrams



Statement of a committee appointed by the U.S. Public Health Service

In the discussions on tuberculosis case detection at the Arden House Conference on Tuberculosis, questions were raised about whether some of the case detection activities now being carried on actually uncover enough cases to justify what they cost in money and staff time. Out of these discussions came the recommendation for periodic statewide evaluation of case detection programs.

Since it was also recommended that a guide for conducting such evaluations be prepared, an *ad hoc* committee was called together to work out the principles for such a guide. The following document is the guide prepared according to those principles. Since case detection is of course carried on in the community, the evaluation procedures proposed are for use at the local level. Data obtained locally, however, can be analyzed at the State level to determine where emphasis, support, and improvement are most needed.

For purposes of clarity, two types of case detection activities are considered separately in this guide: (1) *surveys of population groups*, which may or may not be known to have a high incidence of tuberculosis but in which individuals at special risk have not been identified, and (2) *examination of individuals* known to be at special risk, such as contacts of known cases. Both types of activities need to be evaluated, and records that will make evaluation possible have to be obtained as procedures are carried out in either instance.

Evaluation of Case Detection Surveys Of Population Groups

■ IN A TUBERCULOSIS CASE DETECTION SURVEY, the group screened may be in a neighborhood, school, or industry, or they may be the persons admitted to a general hospital or other institution. The survey begins with the application of either the tuberculin test or the chest X-ray to the defined population group, which makes possible the selection of persons in that group who should have further examination. Successive steps in case detection narrow further the group for whom the next step is indicated. If the initial step is a 70 mm. chest X-ray, a 14″ x 17″ confirmatory film is usually the second step of what may be called the screening phase, before suspects are referred for diagnosis. However, sometimes when a mirror optic camera is used in taking the 70 mm. X-ray, or when intermediate size film is used in initial screening, a 14″ x 17″ film is not taken, and screening in these instances may include only the initial chest X-ray. If the initial step is a tuberculin test, screening also includes either a 70 mm. (or intermediate size) chest X-ray for tuberculin reactors, or a 14″ x 17″ chest X-ray, or both.

The diagnostic phase of a case detection survey includes whatever procedures are required to reach a definite diagnosis of tuberculosis, other disease, or no disease.

Coverage

Surveys should be evaluated in terms of coverage, yield, and cost. Coverage means the extent to which the group for whom a test or procedure is planned have actually received it. For instance, if a chest X-ray survey is done in a high incidence neighborhood, the coverage at the initial step would be the proportion of the eligible population in that neighborhood who received chest X-rays. If the next step in the survey is a 14″ x 17″ confirmatory film, the coverage at that step would be the proportion of the 70 mm. tuberculosis suspects who had 14″ x 17″ films. Then the coverage for the diagnostic phase would be the proportion of 14″ x 17″ film tuberculosis suspects who received necessary diagnostic follow-up.

Records should be kept so that coverage can be measured at every step of the survey, whatever procedures are used, and the indexes of coverage should be determined for each survey site. The site is the particular school, hospital, neighborhood, rather than the category of schools or hospitals or neighborhoods. The purpose of measurement by sites can be illustrated by considering what the situation would be if records from ten schools in which tuberculin testing was done were to be combined. Suppose that altogether there were 3,000 children in the ten schools, 300 in each, and the record showed that 90 percent, or 2,700 of them had been tested. This could mean that 90 percent of the children had been tested in each school, or it could mean that in 8 schools 95 percent of the children had been tested and in the other two only 70 percent of the children had been tested.

Yield

Since the purpose of a case detection survey is to find unknown cases or potential cases of tuberculosis, its success in doing this is of course an essential evaluation factor. Yield need not be measured at every step of the program, but at the end of screening, whether it has involved one step or three, the yield of tuberculosis suspects should be determined. This, in the standard pattern of case detection programs, would be the number of persons who had had a 14″ x 17″ confirmatory X-ray which indicated the need for diagnostic follow-up because of suspected tuberculosis. If, because a mirror optic camera is used in taking the 70 mm. X-ray, or intermediate size film is used, a 14″ x 17″ confirmatory film is not taken, the suspects would be those referred for diagnostic follow-up on the basis of the initial film. The yield of diagnosed cases of active tuberculosis should also be measured; this measurement is especially useful in comparing different types of case detection activities. Measures of yield, like measures of coverage, should be determined for each site surveyed. The importance of being able to narrow down as specifically as possible the sites with the highest yield of cases is readily apparent.

INDEXES

For Evaluating

Surveys of Population Groups

Screening Phase

1. COVERAGE—Initial test

To measure the coverage of the group surveyed.

$$\text{Index} = \frac{\text{Persons Surveyed}}{\text{Persons Eligible}} \times 100$$

2. COVERAGE—Subsequent screening tests

To measure the extent to which suspects detected in the initial procedures of a screening program are promptly followed through to the end of the screening phase.

$$\text{Index} = \frac{\text{Persons Given Large Film Examination}}{\text{Persons Recalled for Large Film Examination}} \times 100$$

3. YIELD

To measure the yield of tuberculosis suspects at the end of the screening phase.

$$\text{Index} = \frac{\text{TB Suspects Referred for Diagnosis}}{\text{Persons Surveyed}} \times 1{,}000$$

4. COST

To measure the cost of the screening phase in terms of the yield of the screening phase.

$$\text{Index} = \frac{\text{Cost of Screening Phase}}{\text{TB Suspects Referred for Diagnosis}}$$

Diagnostic Phase

5. COVERAGE

To measure the extent to which suspects detected by the screening phase are followed through to acceptable completion within six months.*

$$\text{Index} = \frac{\text{Diagnoses and Other Acceptable Dispositions}}{\text{TB Suspects Referred for Diagnosis}} \times 100$$

6. YIELD

To measure the yield of active tuberculosis.

$$\text{Index} = \frac{\text{Active Cases Found}}{\text{Persons Surveyed}} \times 1{,}000$$

* The report of the *ad hoc* Committee on Goals and Standards in Tuberculosis Control recommends a performance standard of 75 per cent for this activity.

DATA

Needed to Evaluate

Surveys of Population Groups

PERSONS ELIGIBLE: Total number of persons eligible to participate in the survey, for each site.

PERSONS SURVEYED: Number of persons who completed the initial screening tests, for each survey site. (Do not count persons who had technically unsatisfactory small films; persons who had a tuberculin test that was not read; or, if both tuberculin and X-rays were used for initial screening, reactors to tuberculin who did not have a satisfactory X-ray.)

PERSONS RECALLED FOR LARGE FILM EXAMINATION: Number of tuberculosis suspects found by the initial screening tests, for each survey site. (According to the character of the screening program this may be: small film tuberculosis suspects; tuberculin reactors; tuberculin reactors who were tuberculosis suspects on small film. This latter definition applies when both procedures are employed, together or in sequence.)

PERSONS GIVEN LARGE FILM EXAMINATION: Number of persons, for each survey site, who received 14" x 17" X-ray examinations within 2 months after the end of the initial screening procedures.*

TB SUSPECTS REFERRED FOR DIAGNOSIS: Number of persons, for each survey site, who received 14" x 17" X-ray examinations within 2 months after the end of the initial screening procedures* and who required diagnostic follow-up for tuberculosis. Exclude those already under current supervision. ("Under current supervision" means that, according to the files of the health department, the person was actually under medical supervision for the disease at time of discovery by the survey. Thus, some persons already on the tuberculosis register, but not being currently supervised by a physician, would not qualify as members of the "under current supervision" group.) If the 14" x 17" confirmatory film is not used, the number of tuberculosis suspects referred for diagnosis would be figured on the basis of the 70 mm. or intermediate size film readings.

COST OF SCREENING PHASE: Total cost of screening operations, including initial screening tests and large film examinations, for each category of survey. Methods of cost accounting vary widely from one community to another, and it is therefore impossible to specify what items should be included in "total cost of screening." The important thing to remember is that the same items should be included for all categories of surveys in one community, so that cost figures will be comparable from time to time and from place to place in that community.

DIAGNOSES AND OTHER ACCEPTABLE DISPOSITIONS: Number of tuberculosis suspects referred for diagnosis from the screening phase who, within 6 months after the end of the initial screening procedures*, either had a diagnosis established (of active or inactive tuberculosis, nontuberculous chest disease or no chest disease) or died or moved away from the community. (Do not count persons who were lost to follow-up for other reasons.) This should be obtained for each survey site.

ACTIVE CASES FOUND: Number of diagnosed cases of active tuberculosis who were found within 6 months after the end of the initial screening procedures and who were not under current supervision at the time of the initial screening procedures. This should be obtained for each survey site.

* See right hand column of this page for information on evaluating continuous surveys.

Cost

Figuring the cost of screening for each site of operations would be difficult, but costs by category—schools, hospitals, neighborhoods, etc.—should be obtainable annually. Because cost accounting is done in different ways in different communities and agencies, it is impossible to define what should be counted in determining the cost of case detection programs. Any one agency, however, can produce comparable cost figures by making sure that the items included are the same for each category.

Six Indexes

On the left-hand page, six specific indexes are presented for evaluating a case detection survey from the initial screening through diagnosis. The three indexes of coverage are expressed in percentages, the two indexes of yield are expressed in rates per 1,000, and the index of cost is in dollars per screening suspect. Detailed definitions of the data needed to construct the indexes are given on the right-hand page.

Evaluating Continuous Surveys

The indexes defined previously are expressed in terms that are applicable to surveys which have a definite "end of initial screening procedures." For continuous screening programs, such as hospital admissions, jail surveys, etc., there is no such end point. These programs should be evaluated by considering a year's work to be "a survey." In applying the time factor required by an index (two months or six months), the time period would be figured for each suspect from the date when he completed the initial screening procedures. For instance, in a hospital admission X-ray program, index number 2 would measure how many small film suspects were given a 14" x 17" X-ray examination within two months after they had their initial small X-ray.

Use of the Indexes

In using case detection evaluation information the factors of coverage, yield, and cost must be related to each other. For instance, if the cost of find-

ing tuberculosis suspects by screening hospital admissions is found to be very high, examination of the yield figures may make it possible to eliminate from the program hospitals in which the yield is low, thus cutting down the cost-per-suspect figure. The yield of cases for surveys in high incidence neighborhoods may be found to be low, but before decisions are made, the coverage figures need to be looked into to see whether screening reached so low a proportion of the eligible population as not to represent the true situation, or whether only a small proportion of initial suspects were followed up to diagnosis. Coverage in school tuberculin testing projects may be very high, but the yield may be so low that school surveys should be deferred in order to concentrate on more urgent case detection activities. However, if records of coverage and yield are kept by site, it may be possible to single out schools in which the yield justifies repeated tuberculin testing.

Evaluation of case detection surveys will also help in estimating the number of persons at each step who can be expected to require followup, so that future projects can be planned realistically in terms of the staff available for followup work.

The evaluation procedures described here are simple enough to be practical for the most modest program. Some agencies will find it desirable to do more comprehensive special studies of case detection programs, which will produce other important information—but these will not be a substitute for routine evaluation of all case detection surveys.

Evaluation of Case Detection Among Individuals at Special Risk

In addition to the group survey type of case detection program, an essential activity in finding new cases of tuberculosis is the examination of individuals known to be at special risk personally. Close contacts of newly reported active cases require first consideration and every tuberculosis control program, whatever its other limitations, needs to have an established procedure for bringing these people to examination.

Procedures used in examining contacts vary from one community to another, as do the kinds of data recorded about this activity. However, if records are kept of the number of identified close contacts of newly reported active cases and how many of them are examined, periodic evaluation of coverage is possible. The coverage index then is the number of such close contacts of active cases reported during a calendar year who were examined either during that year or within a month thereafter divided by the total number of identified contacts of the active cases reported during the year. (The additional month allows for examination of contacts of cases reported during the last weeks of the year.) The result multiplied by 100, will be the percent of these contacts reached. Examination in this instance would mean either a tuberculin test followed by a chest X-ray of reactors or a chest X-ray initially. (The report of the *ad hoc* Committee on Goals and Standards in Tuberculosis Control recommends a performance standard of 90 percent for this activity.)

Some other categories of individuals whose special risk has been indicated by epidemiologic studies are: associates of newly discovered pre-school age tuberculin reactors; persons whose X-ray films showed pulmonary shadows (other than calcifications), of undetermined etiology after six months of followup; and tuberculin reactors in vulnerable age groups. Many health departments do not have sufficient resources to attempt to examine people in all of these categories regularly, but in whatever programs of this nature they undertake, provision should be made for collecting the information needed for evaluation of performance. The suggested coverage index for each category is: the number of persons in the category who do receive examinations, divided by the number for whom examinations were planned, multiplied by 100.

The assembly of data on yield of case detection activities among these various types of individuals at special risk is usually complex. Since the decision about continuing a particular one of these activities can be based upon the results of special studies, routine annual evaluation of yield is not proposed for all health departments. Health departments in a position to do so, however, are urged to make special analysis of their yield of cases among these various types of individuals at risk.

Members of the *ad hoc* Committee On Case Detection Evaluation

MR. WILLIAM B. BECQUE, *Washington, D.C.*

DR. MILTON FEIG, *Madison, Wisconsin*

DR. ANDREW FLECK, *Albany, New York*

DR. EDWARD LEHMANN, *Kansas City, Missouri*

DR. CEDRIC NORTHROP, *Seattle, Washington*

DR. EDWARD PISZCZEK, *Forest Park, Illinois*

For the National Tuberculosis Association
MISS HELEN OSTWALD

For the Public Health Service
DR. EDWARD T. BLOMQUIST

Mississippi Finds an Answer in HOME TREATMENT

A. L. Gray M.D., and Judson M. Allred, Jr.

■ THE TUBERCULOSIS SITUATION in Mississippi on January 1, 1953, was a dreary one. For most people with active cases of TB, there was no possibility of getting medical attention. There were not enough hospital beds and there was no hope of constructing more. Only one out of every three people with known active TB was receiving treatment.

At the base of the problem was the overall economic picture. For some years, Mississippi has had the lowest per capita income in the nation. A large part of the population lives in rural areas and small towns. Of those who develop tuberculosis, a majority are in the lower income groups.

In the light of these facts, it was clear that some other new course of action was needed. The answer to the problem seemed to lie in wider use of outpatient facilities for treating those living at home.

Conditions were right for such a program. There was an organized health department in every county; X-ray facilities and laboratory services were available; and local health department personnel were interested in attacking the problem.

There were two objectives: protecting the public health and treating more tuberculosis cases than available facilities would normally allow.

A plan was developed by the Mississippi State Board of Health and approved by the state sanatorium, the state medical association, and the Mississippi Tuberculosis Association. All those involved in tuberculosis control—private physicians, public health personnel, sanatorium staff members, and members of volunteer associations—worked as a team.

The state-wide home treatment program has met with great success. Since its initiation in 1953, almost two thirds of recently reported active tuberculosis cases in Mississippi have been made inactive. More than 5500 patients have received treatment.

These are the basic elements of the program:

- People who need treatment fall into three categories: those who cannot be hospitalized because of a shortage of beds; those who refuse hospitalization; and those discharged from the hospital but who must continue treatment at home.
- The importance of the preference of hospital treatment to home treatment is stressed with all patients.
- Streptomycin, PAS, and isoniazid are used for drug treatment.
- Wherever possible, medical care of the patients is directed by private physicians.
- Public health nursing care for patients at home is provided by local health department personnel.
- Laboratory and X-ray services are provided by county and state health departments.
- Regional tuberculosis clinics have been set up on a county basis. Two consultant chest physicians have been appointed to assist private physicians and health officers on all phases of treatment of individual patients.

A majority of the services have been provided by health departments. Division of responsibility can be broken down roughly as follows: one third of all patients received treatment solely from the health department clinics; one third of the patients received treatment from the health department and private physicians, working together; and one third of the patients were treated by hospital outpatient clinics and the health department, working together.

Each county health department arranged for special clinics for the administration of streptomycin. Special clinic days for X-raying were also set up. Naturally, in a program as complete as the Mississippi's, many special nursing visits were required. For example, in 1955, nursing visits to tuberculosis patients in the state of Mississippi were exactly triple the number of visits made in 1952, the year prior to the inauguration of the home treatment program.

Even with the tremendous increase in the county health department tuberculosis control work, the entire program was developed and is being continued with no additional increase in staff, with the exception of the two consultant chest specialists.

At first no state funds were available to defray the cost of drugs. Of the total drug cost for this program throughout the state, 26 per cent was paid for by patients; 26 per cent by TB associations; 33 per cent by county boards of supervisors; and 15 per cent by other sources. The slogan became, "A pack of cigarettes a day costs more than drugs for treating a TB patient." Through cooperation, the financial structure of the program was assured.

The picture concerning the financing of drugs has changed but slightly. Today the patients are bearing more of the cost; the TB association is bearing less of the cost; and the county board of supervisors, together with the State Board of Health, is bearing approximately the same cost as quoted above.

During the first year, 1953, 630 patients were under treatment at home. During 1956 the number rose to 1820 patients. Since the program's inauguration, more than 5500 patients have been treated at home.

One of the most encouraging aspects of the program has been the response of tuberculosis patients to the opportunity for treatment. Sixty-three per cent of the patients started their treatment program within one week after it was recommended. Eighty-three per cent were on treatment within one month. By the end of a six-month period, 95 per cent of all patients had been started on drugs. An evaluation of cases selected at random indicates that a very large percentage of the patients, over 85 per cent, were thought to be taking drugs regularly.

The value of a home treatment program is obvious. Eighty-three per cent of patients admitted to the home treatment program were in an advanced stage of tuberculosis upon admission, 29 per cent being moderately advanced and 54 per cent far advanced. Only 10 per cent were in the primary stage, and seven per cent were listed as having an unknown diagnosis on admission to the program.

The home treatment program has given a tremendous impetus to the early treatment of tuberculosis in Mississippi. For example, of all the active cases first reported in 1956, nearly two thirds received treatment through the program. Moreover, 84 per cent of all cases reported in 1956 were treated either 1.) through the home treatment program, 2.) by private physicians, or 3.) in a sanatorium.

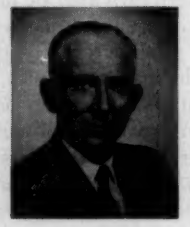
What has been the therapeutic effectiveness of the program? This is the most pertinent question that one could ask. To help find the answer to this question, an analysis was made of a group of newly-reported cases. The analysis showed that after two years of combined home treatment and hospital care, nearly two thirds of this control group were either arrested or inactive cases.

A continuing evaluation of the home treatment program is being carried on. There is always room for improvement in any undertaking. We are continually striving to secure a more complete X-ray and laboratory examination of patients admitted to the program. We are also trying to reduce the number of people whose stage of disease is not known on admission to the program. The figure is now seven per cent. The two chest physician consultants are intensifying the review of individual patients' progress. A sizable number of patients on home treatment continue to work, and we are continually attempting to reduce the number of patients who do so. Provision is also being made to give treatment under more controlled conditions to patients who fail to make satisfactory progress.

Now that the large backlog of active cases at home is being treated, it becomes feasible to review at more frequent intervals the progress of all patients under treatment. This is being done more and more throughout the state. In addition, larger numbers of patients are being hospitalized when they most need hospitalization, and patients can be transferred from the hospital to the home treatment program sooner than was formerly possible.

• • •

Today the tuberculosis picture is vastly different from what it was in 1953. We cannot be less than enthusiastic about our home treatment program. It has proved to be an effective method of meeting the major tuberculosis control problems in Mississippi.



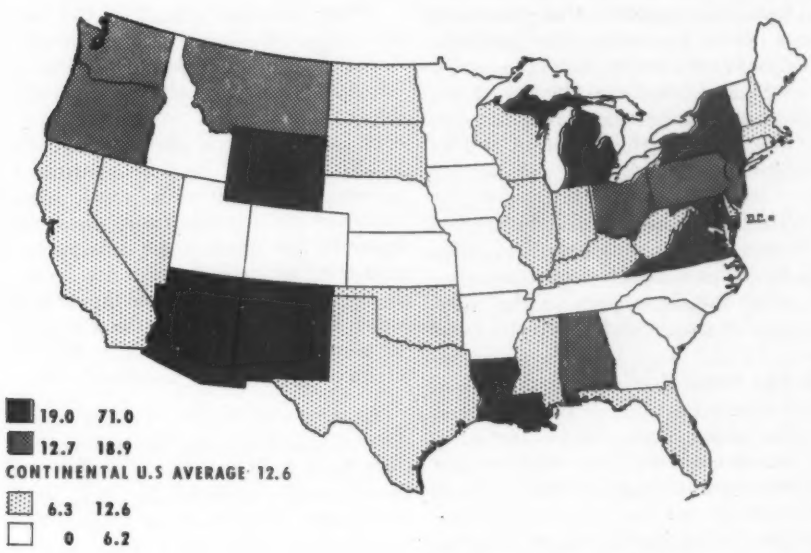
DR. A. L. GRAY is executive officer, Mississippi State Board of Health. He entered Public Health Service in Mississippi in 1930, and from 1938 to 1958 served as director of Preventable Disease Control. Dr. Gray is a member of the board of directors and the executive committee of Mississippi Tuberculosis Association. **JUDSON M. ALLRED, JR.** (right), is executive director of the Mississippi Tuberculosis Association. He joined the association in 1950 as field representative and was appointed to his present position in 1951. He is secretary-treasurer of Southern Tuberculosis Conference and has served as an officer of various health and related organizations.

The Price of TB Control

Donald Trauger

TB CASE RATES IN CHILDREN UNDER FIVE

Newly reported active and probably active cases per 100,000—1958



Tuberculosis developing in children under age five is one measure of our current failure to prevent the spread of tuberculosis infection.

DESPITE SUBSTANTIAL ADVANCES in diagnosis and therapy of tuberculosis as a disease, the basic problems of tuberculosis control have remained relatively unchanged over the years. The magnitude of the problem of control has changed, but its nature is the same. Prevention of infection with its consequent disease and death is still the goal in the United States, and no short cuts to this goal have been discovered. The old road of isolation of infectious cases, plus treatment and education of the patient and his contacts to minimize the spread of infection is still the highway to the elimination of tuberculosis as a public health problem.

New infections still occur

Currently, the bulk of new cases is apparently developing in people with old infections rather than new ones. Nevertheless, eventual elimination depends on stopping new infections. Obviously, if new infections are stopped, in the future there will be no old infections. There is good evidence that new infections in the United States have been substantially reduced in number and in rate, but is this enough?

The accompanying map gives some idea of the amount of infection recently spread to children. It shows new active tuberculosis cases reported during 1958 in children under five, on a rate basis. The map actually is a gross understatement of the new infection rate in this age group: many infections do not progress to disease, and the amount of infection is probably several times the amount of disease reported.

There is good reason to suspect that many of the infections spread recently to children under five will persist and develop into reportable cases for many years to come. We are fairly sure that new infections occur most frequently in areas where case rates are high. At the moment that infection takes place, the continuance of this preventable, communicable, and chronic disease is assured.

Why so little concern?

What seems worth wondering about is why there is so little concern about this situation. Do we reserve all our moral indignation about the resigned or callous attitudes toward disease and death for faraway places that we can designate as underdeveloped? What do we value more highly than the prevention of a disabling and deadly disease that we know to be preventable? These, of course, are slanted questions.

Actually, it does not seem appropriate for official agencies and voluntary associations supported by the public to control tuberculosis to take a detached attitude in this matter. Can such agencies be satisfied with anything less than complete control? Why this indecision?

Some points of indecision about

tuberculosis control are easily discernible.

Areas of indecision

1. The belief that although tuberculosis is a communicable disease, it is not so communicable that isolation of all cases is deemed a necessity. The belief that the risk of the spread of tuberculosis is more tolerable than infringement of individual liberty.

2. The belief that privately treated cases do not concern the public. How many health departments receive regular reports of the progress of cases under private care?

3. The belief that the effort required for keeping track of the patient as he moves from suspect to diagnosed case and from one form of treatment to another isn't worth it.

4. The belief that the cost of tuberculosis control should be borne by the patient if at all possible.

5. The belief that tuberculosis needs to be controlled only in persons with legal residence in various public health jurisdictions and that non-residents can be ignored.

6. The belief that it is cheaper to wait for tuberculosis to develop and then deal with it or neglect it than it is to prevent infection through tuberculosis control.

7. The belief that control is undemocratic, inhumane, bureaucratic, and unneeded.

8. The belief that patients must accept hospital treatment or be dismissed from health department concern.

Where we have failed

These are a few of the most common points of indecision about tuberculosis control. Undoubtedly, many people are infected each year by people who do not know they have tuberculosis in a communicable stage; others are infected by people whose doctors know they have tuberculosis, although the health department does not; and still others are infected by persons who have been reported to the health department as tuberculous.

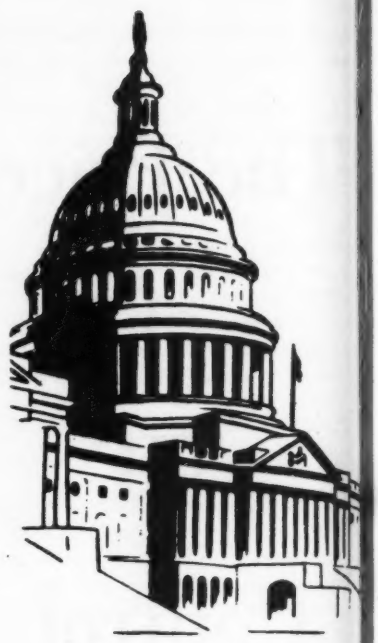
When infection occurs in the last two types of situations, the health department or the medical profession has failed. If we believe in health department control of tuberculosis, each case of medical profession failure is also a case of health department failure. When infections result from exposure by a person who does not know he has tuberculosis, it is appropriate to ask why he did not know. If he was ever known to the health department or a physician as a case or as a suspect or as a contact, can we claim infection was unavoidable?

Experts now believe we can eliminate tuberculosis, not by waiting for it to burn itself out, but by the use of widespread chemotherapy as a public health measure. They believe this prospect of elimination may wane if not pursued promptly and vigorously. The challenge is whether we can control tuberculosis without coming to decisions about matters which have impeded control in the past. Can we hope to speed up control by doing less than obligating each state health department to create a statewide system—a system which provides assurance that each suspect and contact is promptly investigated and that each case is placed and kept in isolation, under adequate treatment, or under surveillance?

Vigorous leadership needed

Briefly, it comes to this—tuberculosis can be controlled if it is regarded as important enough by leaders in the field of public health. In a specialized society preoccupied with many other concerns, vigorous leadership is required. Leadership which waits for a clear, clarion demand for action from the man in the street simply isn't leadership these days and accomplishes little. Public health leaders must lead. «

DONALD TRAUGER is associate director of NTA's Research and Statistics Division.



■ THE SPOTLIGHT focused on our older citizens at a gigantic meeting held this past January—the White House Conference on the Aging. Figures show that over 50 million Americans are middle aged or older; 16 million of these are over 65.

"For far too many people, old age means inadequate income, poor or marginal health, improper housing, isolation from family and friends, the discouragement of being shunted aside from the mainstream of life," stated Arthur S. Flemming, former Secretary of Health, Education, and Welfare. "We have not yet adjusted our sense of values, our social and cultural ways of life, our public and private programs, to accommodate the concerns of this vast legion of old and aging people," he added.

It was to discuss such problems that 2,700 delegates from every state in the union—and from practically every national voluntary organization—converged on Washington.

Encompassing many disciplines and a great deal of past experience, the final report published by the conference makes a great many recommendations. Here are a few highlights:

The WHITE HOUSE CONFERENCE ON AGING

▸ ***Institutional Care.*** A broad spectrum of institutional facilities is essential for proper health and medical care for all citizens, especially the aged. These facilities must be provided through orderly planning to prevent duplications and deficiencies. The local area—city, county, or metropolitan—should be used as the planning base. Quality of care in many institutions can be greatly improved. Licensing laws must be adequate to protect the public, and they must be rigorously enforced.

▸ ***A Swing to the Home.*** Conferees thought that institutions should provide not only custodial care but also clinic services. In past years, the cry was, "Let's build better institutions for the aged." Today, experts are saying that institutions for the aged should provide services to enable more and more people to live useful lives in the home. There was a great deal of talk about independent living at the institution or at home—preferably at home. It was emphasized that the physician's services are essential to care at home and that the physician should be the coordinator of services provided to the individual.

▸ ***Rehabilitation.*** Rehabilitation is the only hope for those disabled by chronic or degenerative conditions. Rehabilitation of the aged must be designed to meet physical, emotional, social, and vocational needs.

Vocational rehabilitation services for the disabled must be improved so that older disabled persons may regain their ability to work. This requires greater public understanding of career opportunities in rehabilitation, additional funds, and rehabilitation workshops.

Hospitals should have adequate outpatient and inpatient facilities for the rehabilitation of the aging. Communities should develop additional supporting services and facilities such as home care programs, homemaker services, day hospitals, patient clubs, half-way houses, foster homes, and preventive clinics for well older people.

▸ ***National Voluntary Services.*** National voluntary organizations can and should give greater assistance to the aging by: (1) analyzing present and potential services to the aging, making a clear statement of policy recognizing the needs, and formulating of standards of practice and methods of maintaining these standards; (2) effectively communicating with local affiliates so that these policies and available resources can be utilized; (3) informing their local affiliates of the vast resources available both inside and outside their own organization, and recommending that they make maximum use of them; (4) encouraging the initiation of new services where needed; (5) re-examining and re-evaluating their services frequently.

▸ ***Community Information Services.*** The conferees felt that local community centers for older people—places where they could come for information, for help, and for referral—should be established. The organization spearheading the centers might vary—it could be a health department, a social agency, or a voluntary agency—but cooperation of many community organizations in the project would be essential. Such centers would coordinate existing facilities beneficial to older people and stimulate creation of needed facilities.

▸ ***Income Maintenance.*** The conferees felt that the best approach to providing income for the retired aged is the several-faced one that has been established in this country, with the individual saving on his own, the individual and his employer joining in private pension arrangements, and the individual and the government joining in social insurance and assistance programs.

▸ ***Financing Health Care.*** The problem of furnishing an adequate supply of high-quality health care for the aging is so large and so complex that its solution will require a variety of approaches, including individual and family resources, voluntary health insurance, industrial programs, social security, and public assistance. Present federal legislation providing government aid for recipients of public assistance and for the medically indigent is desirable and should be strengthened so as to provide a high-quality health care program. The states are urged to take full advantage of this legislation. «

—ROSE-MARIE HERNANDEZ
AND ALEX WOICESHEN

Certificate winners in NTA's first "Art Against TB" poster contest are selected by a distinguished panel of judges. From the left: Howard Munce, executive art director of a leading advertising agency; Albert Dorne, president of Famous Artist Schools; and Stevan Dohanos, well-known illustrator and 1960 National Honorary Christmas Seal Chairman.

This striking poster was painted by Dick Walker of Denver, Colo. Dick is a student at Thomas Jefferson High. Poster was submitted by the Denver Tuberculosis Society.

Young Artists Fight Against TB

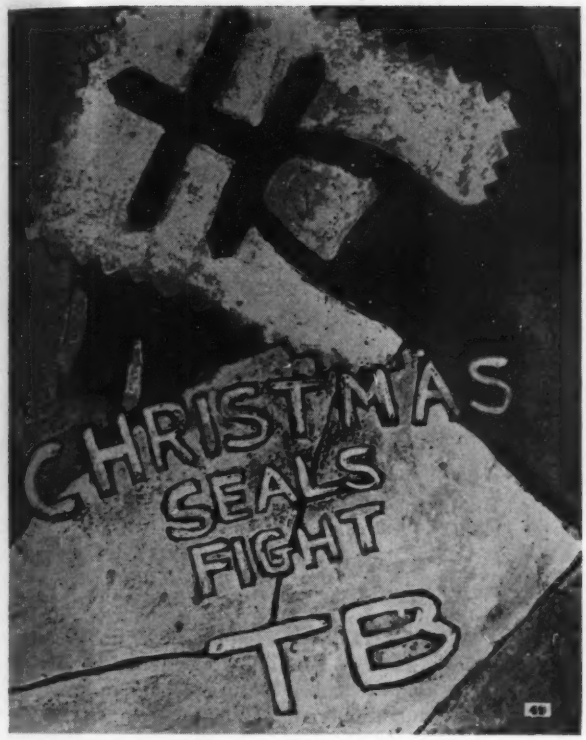
The winning entries in NTA's first "Art Against TB" poster contest for young artists were selected by three of the nation's leading artists and illustrators. Stevan Dohanos, famous artist and illustrator, and 1960 National Honorary Christmas Seal Chairman, originated the contest as a means of encouraging the use of art as a weapon against disease.

The experts met in the New York offices of Famous Artists Schools in January to review 126 entries by junior and senior high school students from 20 states. Certificates of Merit were awarded to 72 posters "for outstanding use of artistic talent as a weapon in the fight against tuberculosis."

The panel of three judges comprised: Mr. Dohanos; Albert Dorne, well-known artist and president of Famous Artists Schools; and Howard Munce, vice president and executive art director of Foote, Cone and Belding, advertising agency.

Preceding the national judging, local and state poster contests sponsored by TB associations were held throughout the country. Those entries winning local and state awards were then submitted for consideration by the national panel.

The posters on these two pages were selected at random from the many fine entries submitted by the students.

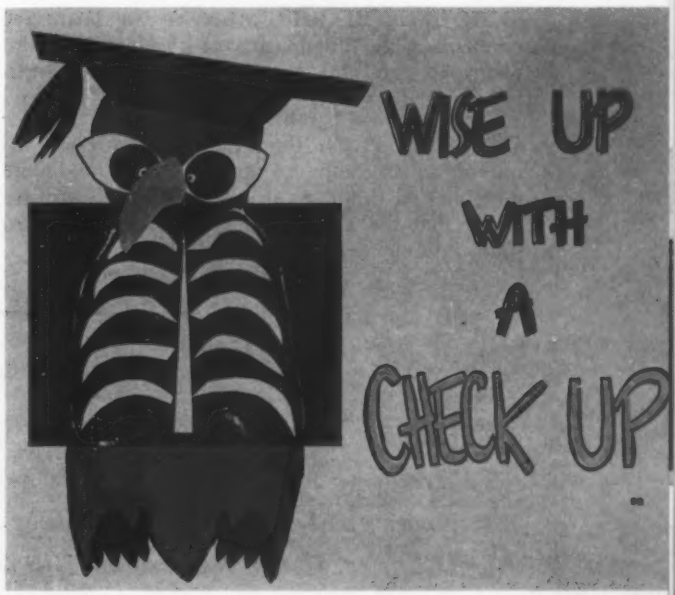


Stanley Livingston of Mystic, Conn., gave his poster this unusual treatment. Stanley attends Fitch Junior High in Groton. Poster was submitted by the Connecticut TB Association.

"Your Move" is the theme of Janet Kahora's lively poster. Janet lives in Carteret, N.J. and attends St. Mary's High in Perth Amboy. Poster was submitted by the Middlesex County association.

Montage technique was used by Kieth Blosser for this attractive poster. A resident of Morgantown, W. Va., Kieth attends Morgantown High. Poster was submitted by the Monongalia County association.

Sheryn Spitzer featured a wise old owl with X-rayed chest in this poster. Sheryn is a student at Glenwood High School, Canton, Ohio. Poster was submitted by Ohio TB and Health Assn.



SPOTLIGHT on the BOARD MEETING

■ EIGHTY-SEVEN MEMBERS of the NTA Board of Directors convened in Williamsburg, Va., January 20 and 21 for the winter board meeting. They managed to reach Williamsburg in spite of weather conditions which snarled transportation throughout the country.

During the two-day session, which followed two days of committee meetings, the board passed resolutions on the following subjects:

- **BUDGET:** The largest budget in NTA history was adopted. It calls for an expenditure of $2,019,695 on the 1961-62 program and includes an anticipated expenditure of $96,156 from reserves.
- **RESIDENCE REQUIREMENTS:** The board recommended the elimination of residence requirements for hospital and outpatient treatment of tuberculosis patients.
- **AIR POLLUTION:** Removal of the present five million dollar ceiling on appropriations for federal air pollution programs was urged. The board also urged that the authority for conducting this program be extended indefinitely.
- **SCHOOL CERTIFICATION:** The School Certification Program of the Tuberculosis Committee of the American School Health Association was endorsed. Constituent and affiliate associations were encouraged to participate in this program.

Two matters which occasioned lengthy discussion but on which no action was taken were: (1) solicitation of national corporations and foundations by the NTA and (2) the policies governing extension of program beyond that which is delineated in "Approved Principles and Program."

- **SOLICITATION:** The major question in the discussion of this subject concerned the rights of constituent and affiliate associations in whose territory the headquarters of the corporation or foundation is located.
- **EXTENSION OF PROGRAM:** The basic question regarding this subject was, "How far afield in programs may associations go under existing stated policies?" Both of these questions were referred to the Policy Committee for further study.

NOTICE OF ANNUAL MEETING

Pursuant to Article VIII, Section I, paragraph 4 of the Bylaws of the National Tuberculosis Association, notice is hereby given that the annual meeting of the membership of the Association will be held on May 22, 1961, at 8 p.m. in the Pavilion Caprice of the Netherland Hilton Hotel in Cincinnati, Ohio.

SCIENTISTS AT WORK

■ A PELLET INSTEAD OF A NEEDLE for an injection?

This is the idea behind a research project now under way with the support of Christmas Seal funds from the National Tuberculosis Association and its affiliated associations throughout the country.

The objective is to develop a device for getting tuberculin between the layers of the skin without using a hypodermic needle, thus circumventing the fear that many children have of being "stuck" and also eliminating a possible source of infection in case the hypodermic needle is not properly sterilized.

The manner of administering the tuberculin test has long been a subject of controversy. Many methods have been tried, even putting tuberculin in the eye. Robert Koch, discoverer of the tubercle bacillus, injected tuberculin into the body, but he was thinking of the substance in terms of treatment rather than as a test. Von Pirquet, who might be called the father of the test, put a drop of tuberculin on the skin and made a scratch through it.

In 1908 Mantoux introduced the intradermal test, known by his name, by which a hypodermic needle is used to inject tuberculin between the layers of the skin of the forearm. This is generally conceded to be the most accurate technique available today. However, the patch method is also in use, particularly among pediatricians who want to avoid sticking children with a needle. Another method in use today is that devised by Heaf in 1951. It consists of "punching" tuberculin into the skin with a multiple-puncture gun.

While the Mantoux is the preferred technique, it has certain disadvantages. Sterilizing needles adequately in mass testing programs requires meticulous attention. Even skilled hands have difficulty in measuring a precise dose of a dilute solution of tuberculin—and if each dose is not precise, the value of the test is jeopardized in epidemiologic studies. Furthermore, children and even adults shy away from being stuck with a needle.

To get around these objections, and at the same time to develop a test that would be inexpensive to administer, Floyd M. Feldmann, M.D., director of research for the NTA, conceived the idea of the pellet. His concept was of combining the exact amount of tuberculin needed for one dose in a harmless substance, such as gelatin, that would dissolve in the body. The one-dose pellet would be injected into the skin with a small, inexpensive instrument that could be discarded, or would be so made that if used again only the part holding the pellet need be replaced.

A bacteriologist at the Armour Research Foundation sorts gelatin needles. This new tuberculin-testing device was conceived by Dr. Feldmann and is being developed under an NTA-ATS grant.

After designing a few sample projectors in his own workshop, Dr. Feldmann won the interest of the Armour Research Foundation of Chicago, which agreed to try to work out the practical problems involved, to plan the packaging of the material, and to cooperate with the NTA in preliminary trials to assess the practicality and worth of the new procedure.

This was planned research on the part of the NTA.

Floyd M. Feldmann, M.D.

At the time that the Armour Research Foundation agreed to cooperate with the NTA, the research funds for the year had been allocated. However, the Committee on Research of the American Thoracic Society approved the project by mail, and an appeal was sent out to selected state associations asking special contributions in support of the project. The response was immediate and generous. The necessary $20,000 was subscribed voluntarily by state and local associations, and Armour was given the go-ahead signal.

The feasibility of incorporating one dose of PPD (the tuberculin to be used) in a hardened gelatin pellet that can be released between the layers of the skin by a spring-driven instrument has been proved by the Armour researchers. The next problem is to test thoroughly the properties of the pellet, that is, to make certain that the binder does not in any way influence the reaction to the tuberculin. Obviously, if the technique is perfect but the results are false, the test is of no value.

Many months of controlled testing will be required to determine whether the technique is satisfactory. If it does turn out in practice as well as in theory, the tuberculin testing of large groups of people can be accomplished simply, economically, and accurately, without pain or fright to those tested.

The little gadget which Dr. Feldmann thought up and for which he carved a model out of odds and ends, and to which the NTA and its constituents and affiliates have given full support, may prove a boon in the search all over the world to identify people who have been infected with the tubercle bacillus—a major step toward the eradication of tuberculosis.

—AGNES FAHY

2 The Price of TB Control 9
Donald Trauger
The White House Conference on Aging 11
3 Young Artists Fight Against TB 12
Spotlight on the Board Meeting 13
Scientists at Work 14
(Floyd M. Feldmann, M.D.)
People 15

Luther L. Terry, M.D., Appointed Surgeon General

Luther L. Terry, M.D., a veteran of the Public Health Service, has been appointed Surgeon General, Department of Health, Education, and Welfare. At the time of his appointment, Dr. Terry was assistant director of the National Heart Institute, National Institutes of Health, and a member of the faculty at the Johns Hopkins Medical School in Baltimore, Md.

For the past seven years, Dr. Terry has been a member of the Montgomery County [Md.] Tuberculosis and Heart Association's Medical Advisory Committee.

Early in his career, Dr. Terry was a research fellow in pneumonia at Washington University. Later he was instructor in medicine, preventive medicine, and public health at the University of Texas. In 1944, he joined the Johns Hopkins faculty.

PEOPLE

▸ ***Jeanne L. McCarthy*** has joined the New York TB and Health Association as a public health nurse in the Division of Services to Patients. Miss McCarthy served in the U.S. Navy Nurse Corps as a lieutenant for six years, and most recently has been a public health nurse for the New York City Department of Health.

▸ ***Leila Morgan*** has been appointed director of the Brooklyn Tuberculosis and Health Association's Chest X-ray Center. Miss Morgan joined the association's staff in 1947 as executive secretary of its Williamsburg-Greenpoint District Health Committee. The district offices have since been closed.

▸ ***Frances Ogasawara*** has recently joined the NTA Program Development Division. Previously, Miss Ogasawara was a program associate with the Massachusetts TB and Health League. She wrote the article on the Massachusetts association's respiratory disease program for the February 1961 *Bulletin*. She has been in the tuberculosis field since 1957.

▸ ***Willard J. Chapman*** has been named campaign director of the Kentucky Tuberculosis Assn. He formerly was assistant administrator of District 3 State TB Hospital, Ashland, Ky., and was a national director of the Junior Chamber of Commerce.

▸ ***Janice Meyer*** has rejoined the staff of the Kentucky association as public relations director. Formerly with Louisville newspapers, she held the same post with the association in 1954-55.

▸ ***E. N. Pope,*** a member of the NTA Board of Directors, has been appointed vice president of the Carolina Power and Light Company, retaining his responsibility as advertising manager. Mr. Pope represents the North Carolina association on the NTA Board. He is a member of the Committee on Grants-in-Aid.

▸ ***Joe K. White,*** NTA board member, was honored recently by having his portrait hung in the Lilly Hall of Life Sciences, Purdue University. The portrait was presented by the Indiana Livestock Breeders Association. Professor Claude Harper, who made the presentation, described the work that Mr. White has done as a cattle breeder and his work in livestock disease control.

▸ ***Thomas Moore*** is now a field representative of the Arkansas TB Association, replacing ***James Giltmier.*** Mr. Moore received his M.A. degree from George Peabody College, Nashville, Tenn.

▸ ***William Clarida*** has accepted a post as health educator with the TB Institute of Chicago and Cook County. Mr. Clarida was a 1959-60 Illinois Tuberculosis Assn. scholarship student and received his M.P.H. in health education from Tulane University in 1960.

PRINTED IN U.S.A.